SORA

window is more than a view

USER MANUAL
Edition 05 (January 2012)

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1. WARNINGS

1.1. General guidance

All M SORA products (windows, doors, shadings, shelves and belonging elements) are highly qualitative products. With intention of maintaining the high quality level, lastingness and faultlessness and to protect people against any injuries wee have to follow the instructions in this manual consistently. On the contrary the permanent damages can be caused on the products, injuries on the people and guarantee in such cases is not valid.

1.2. Follow the instructions

When windows and doors are opened we have to look out that any body part does not come between wing and frame, which can lead to permanent body injuries.

In case of an open window the danger of a fall through the window is present, especially when little children are around.

In combination of an open window and strong wind or drought the danger of construction window damage is present.

Additional load on window wing can lead to permanent window damages.

When closing windows no obstacles should not be between window wing and frame.

We have to prevent, that window wing would swing uncontrolled (due to wind). On the contrary major damages on metal fittings, wooden elements or other window's and door's parts can be caused.

In case of the present wind or drought windows should be closed and bolted.

When windows (doors) are opened they do not fulfil any waterproof, sound isolation demands, or burglary protection.

With closed windows no sufficient air transmission is possible. For optimal human state of health additional and regular ventilation with opened windows is necessary.

Ordinary glass is not burglary protected, can be broken down easily and is not additionally fire resistant.

Ordinary glass can be broken down easily. By breakdown sharp splinter of glass can emerge and can cause major body injuries.

It is necessary to check the vital fittings regularly. In case of a loosen parts of fittings it is necessary to replace screws or just to tighten them again

We have to ensure sufficient air transmittance and to convey away moisture in the storehouse. During the building in period we have to protect products against mechanical, climatic and chemical impacts.

We have to avoid storage of our products in rooms with air-moisture grater than 55%. If not so consequential damages, such as wooden parts swellings, deformations, mould and fungus growth, can accrue.

Protective materials (bands, foil, spacers) have to be combined with products material and must be easy to remove

When products surfaces are despite protection dirty, we have to clean the surfaces immediately with non-aggressive cleaning means.

We have to check the quality of the blind's band regularly, to avoid the unexpected fall of the blind and so its damage.

When the wind blows with more then 60km/h, the blinds have to be in a non-used position, shutters should be closed and locked, so that we avoid permanent damages on the products.

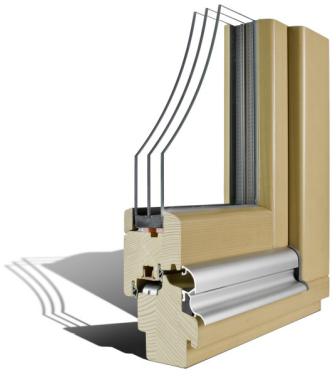
In case of the opening door system where we use the rubber stopper in floor, the stopper should be placed in position of the middle point of the door width. The stopper protects doors and other furniture before impact and so preserves elements surfaces undamaged.

2. SELECTION AND USAGE OF THE PRODUCTS

2.1. Windows and balcony doors

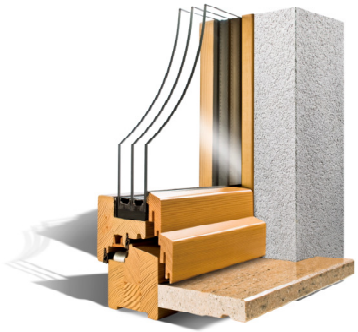
M SORA window are more than protection, are more than a view and are more than just a product. They represent the homeliness of wood, they are part of our life and personal life-style. Our top quality production, innovations and modern technology are vital part of our product.

M SORA NATURA, NATURA+



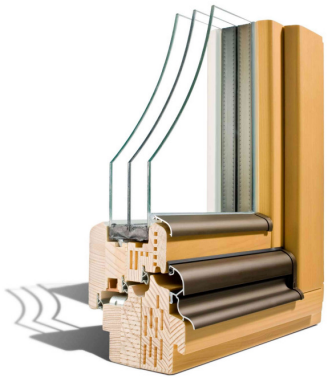
M SORA NATURA is a window that is designed on one hundred years of experiences and development. It combines our tradition and modern technology of machinery and build-in materials. This gives us product that brings cosiness, warmth and nature in our home.

M SORA NATURA PASIV



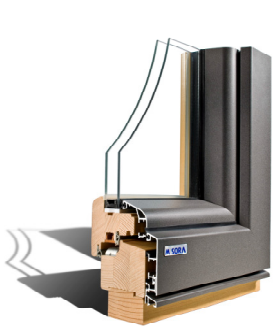
M SORA PASIV is window for low-energy and pasiv houses, which speciality is to increas insulation farme, this achieved with extension insulation from facade over to window frame. Innovative solutions reduced heat loss on contact window-construction, at the same time however object creates attractive look. From outside is after three pages window visible only glass surface.

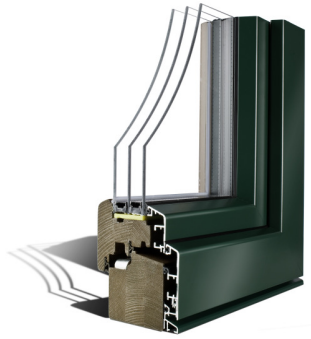
M SORA NATURA E92

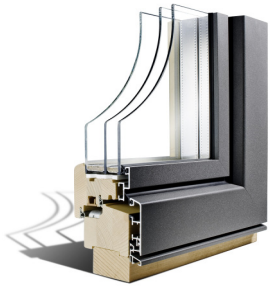


Windows M SORA NATURA E92 is a result tradition and modern technology, many years development and experience. Windows M SORA is a product, which bring the warm in your home, beauty of nature, nobility of wood and homeliness. The window is suitable for passive construction.

M SORA UDOBJE, UDOBJE3, UDOBJE+





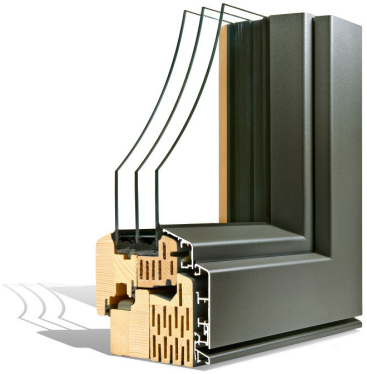


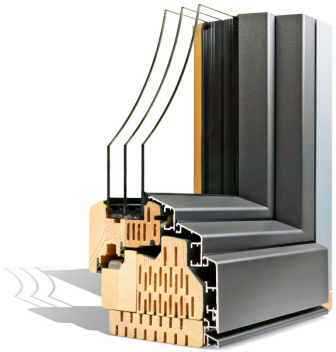
With M SORA UDOBJE window we have preserve cosiness and homeliness of wood on the inside, an the outside we have added Aluminium profile, with which we additionally protect the wooden surfaces, before all weather conditions

M SORA UDOBJE P

M SORA PRESTIŽ window is Aluminium-Wooden window, which has an additional third glazing on the out side. That way we got combined alu-wooden window with space between glazing which we can use for setting up the blinds. Third glazing improves thermal and sound isolation, which can reach up to 40dB. M SORA PRESTIŽ window has some limitations regarding special shapes and types of window, but can be excellently combined with M SORA UDOBJE window. They both have the same design on the inside.

M SORA UDOBJE E92, 122

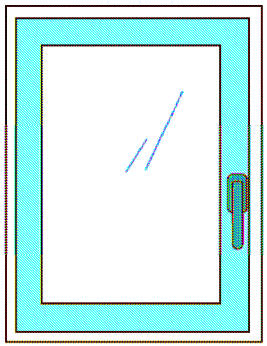


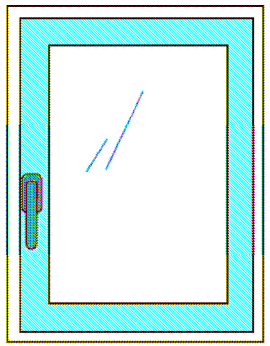


Windows M SORA POLAR E 92 AND 122 are result the best technology, software and home knowledge. Is the first windows, which insulation part is completely natural. Woods coating with air slots is patente and certificated. With her can woods windows, whithout lager problems, reach passive standards.

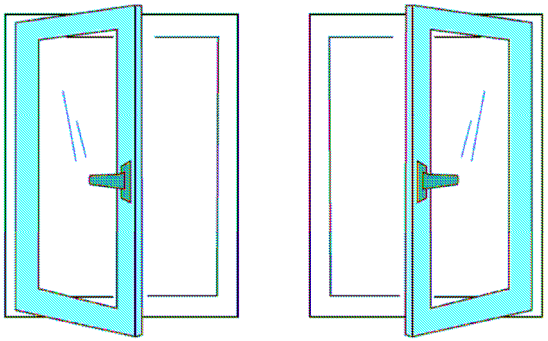
M SORA VIZIJA

M SORA VIZIJA window is window of the future. The speciality of this window is that from the outside of the window there is no wood seen. The whole outside surface is covered with special isolated glass with emajled edge. On the inside of the window we have preserved wood. With its design this window outstands common window designs and is appropriate for those who wish to add something new and innovated to the house.

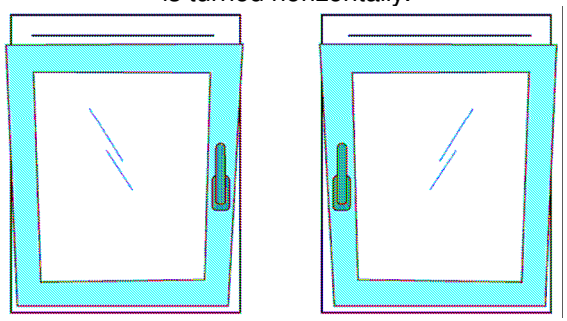




Window is in closed position when handle is turned downwards.



Window can be opened by vertical axle if the handle is turned horizontally.



Window can be opened by horizontal axe if the handle is in upwards position.

Picture 1:Different opening positions

By standardly-used fitting we use a safety binder, which disables simultaneous opening by horizontal and vertical axes.

Picture 2: Safety binder

When is window two-wing without intermediate pillar then the first window (window with pololivo) open for the above described procedure (Picture 1), other window (wing window without pololive) then the window open with pull hinges (Picture 3) away. That can be opened other window then must be first window first open.

Picture 3: Mechanism for opening two-wing window or balcony doors without pillar

2.2. Panoramic walls

For rooms, where want to have a lot of light and large crossing on the balcony we suggest panoramic walls. Different design of panoramic wall, will allow different ways opening and with them economic use of space in your home.

Picture 4: Panoramic wall

For panoramic wall there are two mechanism hinges, which allow two different way opening. They calld S and Z mechanism. S system is built in standard, mechanism Z is installated with payment.

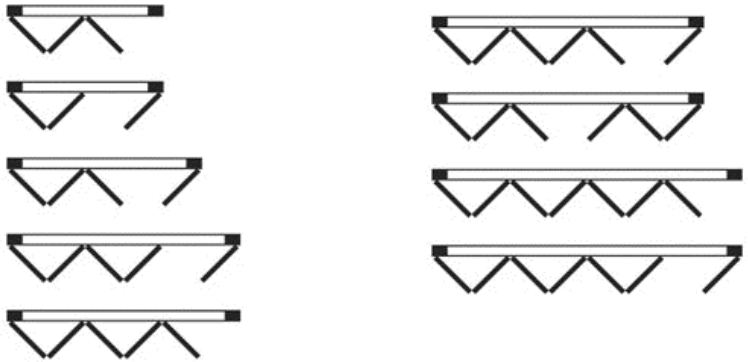
Difference betwen S and Z mechanism is in this, that in the S mechanism crossing window from one to other position non-federal and for there is necessary mechanism pull or pushing from or in frame. The opposite they are crossing in Z system polished and they place simultaneously with the movement.

2.2.1. Folding wall

Folding wall allows folding system opening. Option for the opening show picture 6. Wall can be wide from 6m and have from 3 to 8 wings. Minimum wide single wing is 50cm, maximum, it is recommended, is 83cm. Version folding wall it is possible in combination wood – aluminium.

Picture 5: Folding wall

Open wings with pololivo is the same as in windows an balcony doors and this show picture 1. With opening and closing we must be careful, that all pololive in open position.

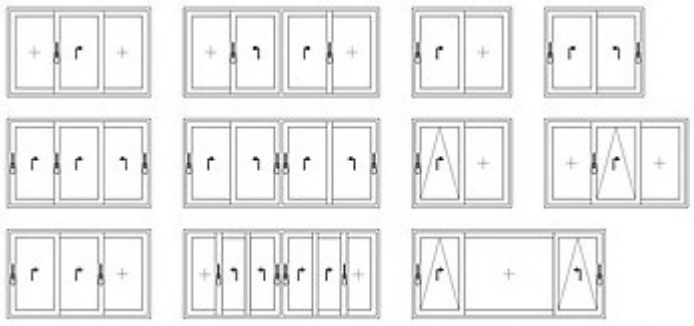


Picture 6: Option opening folding wall.

2.2.2. Lift slide wall (GU Wall)

Sliding wall it may be open, without extending in to space. Recommended wide sliding wall is from 195cm to 500cm. attached cross on this wall we can not installed. Sliding wall is suitable for larger public object (school, ..).

Picture 7: Sliding wall



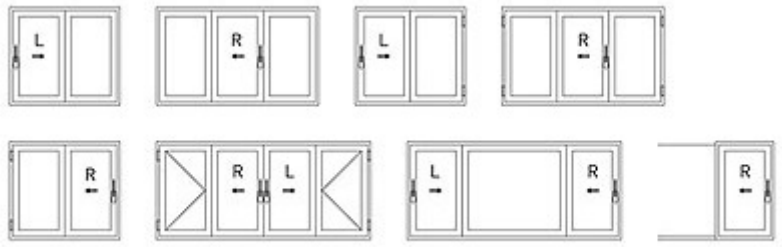
Picture 8: Opening options sliding wall

For opening wage GU wall, we must rotate the handle for 180℃ down. In this is moving window lightly raised and by pulling in the

desired direction, can we open. With again moving handle in the original position, can we fix wing in any position.

2.2.3. Tilt - slide wall

Sliding tilt wall allows you wide crossing on the balcony, in this take very little space for opening. Recommended dimension panoramic wall is from 160 cm to 320 cm with and from 198 cm to 238 cm high. Design sliding tilt wall is possible also in combination wood-aluminium.



Picture 9: Opening options sliding tilt wall

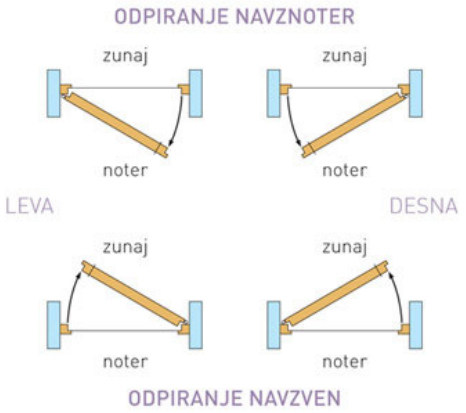
Picture 10: Sliding tilt wall

Sliding tilt wall are the most selling panoramic wall in M SORA.

2.3. Front doors

In M SORA we offer front doors in classic version or made of massive plates, with metal reinforcement inside. Dimension and appearance door adapt your wish. Each door product in M SORA is unique. You can combination between different tips, colours and glasses.

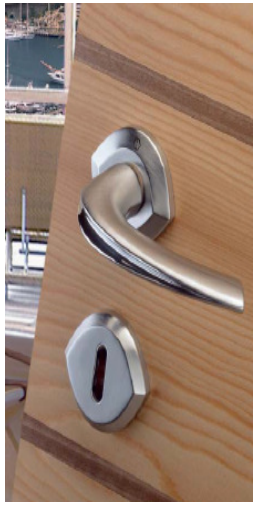
Picture 11: Front doors



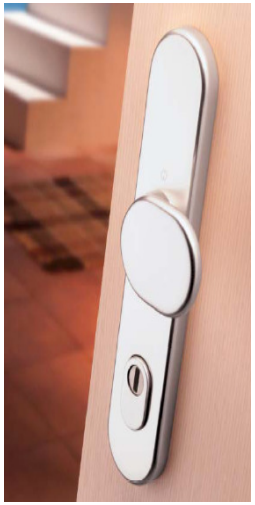
Picture 12: Possible directions for opening

We can opened door by pressing the handle down. Locking system is depend from built in lock. Instead of handle on the outside, we can used grip. In this case we can open the door just with key. In insulation electric receiving, can we door (in the unlocked position), opened with switch (for example door phone). We can stress that the installation don't perform alone, but for this provide qualified person.

Picture 13: By pressing handle down, the door opens.



handle



Security grip

grip

Picture 14: Different way of opening

2.4. Accessories

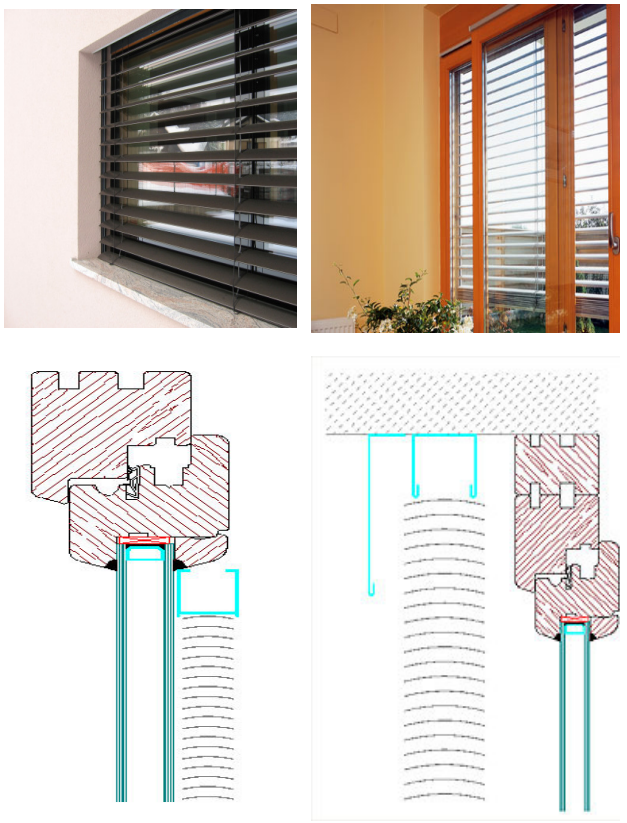
2.4.1. Overlight elements

Overlight elements allow you to additional light in room. We usually choose for them in case large openings, which would have single window too large dimension or when we want reduced opening and with them improve look window and all area. There are four system opening overlight element, which are shown in lower picture. We use opening with handle on the rise, with monokomandno rotary handle or with remote control electric motor.

Picture 15: Different way opening overlight

2.4.2. Blinds

When you like your place even more overshadowed, but also provide for his beautiful look, then we in M SORA recommend use inside blinds. They are made from horizontal aluminium lamell. You can choosen between different widths and clors lamell and position blinds.



Inside blinds **Outside blinds**

Picture 16: Types of blinds

Blinds are opened and regulated with chain or through motor drive, which are controlled by hand or trough discrit management.

Upravljanje z verižico

Picture 17: Different way for management blinds

2.4.3. Roller shutters

Roller shutters inculed between blinders, with them achive perfect darkness space, in addition we offer sound and thermal insulation. They are protect before weather inconvenience and adverse look. Apart from their functionality have roller shutters also decorative

function. We can choosen between different color and dimesion lamell.

Typ of ruller shutters:

- Before window roller: they are after installed before window. Box can be visible or hidden.
- Over the window roller: roller box is hidden under the façade. We fixed roller on window at single installation.

Picture 18: Different typ of roller shutters

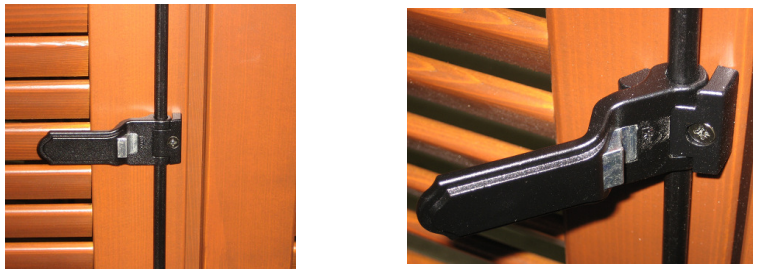
Picture 19: Different ways management with roller

2.4.4. Shutters

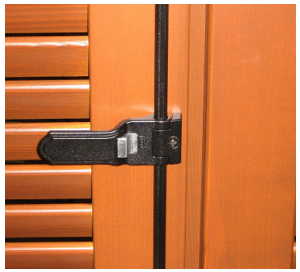
Shutters are tradicional effective hood, in same case they are indispensable protect before weather impact and burglary. At the same time they are very important addition to outside look facade, as with its format and color provide for good look.

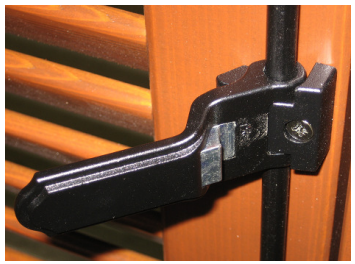
Picture 20: Different typ of shutters

Shutters can be opened by hand.(Picture 21).



Picture 21: Opening shutte), inside or with electic motor.

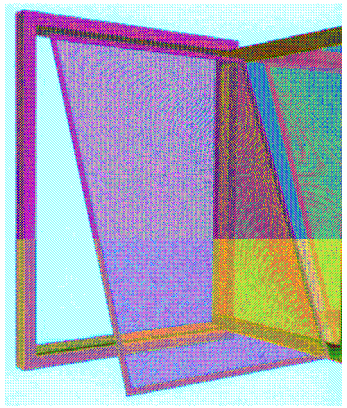


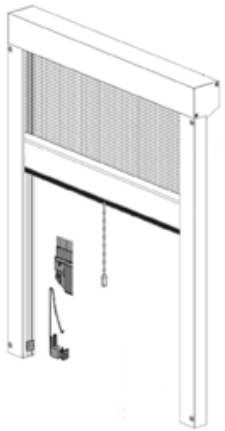


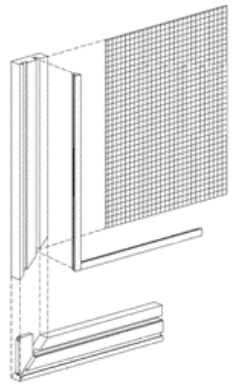
Picture 21: Opening shutters in open window

2.4.5. Insect screens

When you want open window at the same time and insect screens then choose installation insect screens. There exists many tips installation and opening only those. One of the best way is integrated insect screens in the drop-down box. All insect screens are made of aluminium and allow near standard colours also painting RAL-u.





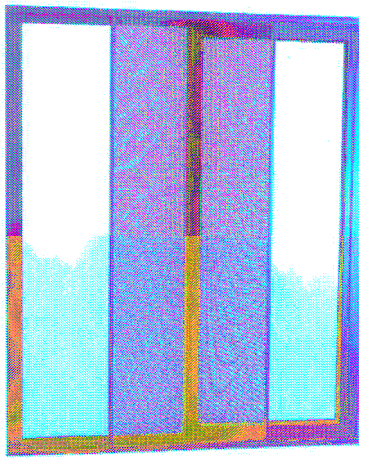


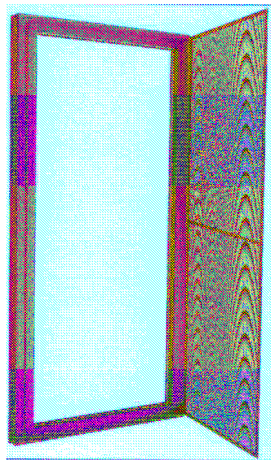
Roll insect screens Fixed insect screens

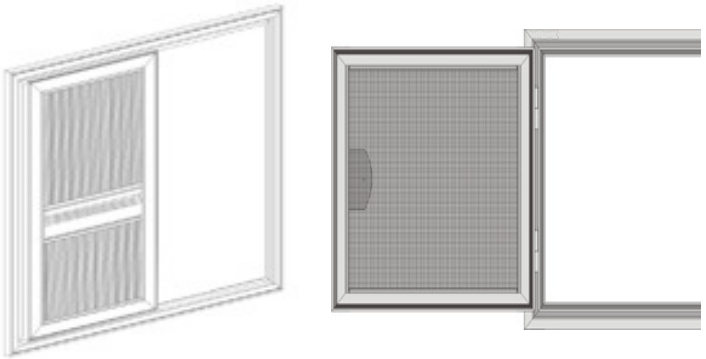
Picture 22: Different tips of insect screens

Roll insect screens is insect screens, which is similar to the shutter winding in his locker, where stays protect and hidden from views. Opening can be possible vertically or horizontal. Preference of this insect screens is –KLIK system opening.

Fixed system insect screens definitely know from earlier. They fixed directly on the window or on the hole. Is extremely easy and tough. It is possible to design in non-standard design (trapeze, triangle,…).







Slide insect screens Wing insect screens

Picture 23: Different tips insect screens

Slide insect screens is composed a fixed frame, which slide from the specific ALU lead. It is suitable for protection before insects in crossing in to the balcony. When is insect screens closed care magnet. They can be built in window or in hole.

3. STORAGE PRODUCTS

Product should be stored in dry, well ventilated room. We can care for the dust protect (for example carton, …). Windows can't folded directly top of each other. Damage to the window area stop with intermediate spacer (for example carton, foam, …).

Picture 24: Storage windows before transport.

4. TRANSPORT PRODUCTS

Recommended is transport products in position which will be installed later. Products are storage with intermediate spacer. We fixed products with bolt on the side boards. In the case to transport products don't producer himself or subcontractor, producer don't responsible for damage products, resulting from this address.

Picture 25: Fixed product with bolt

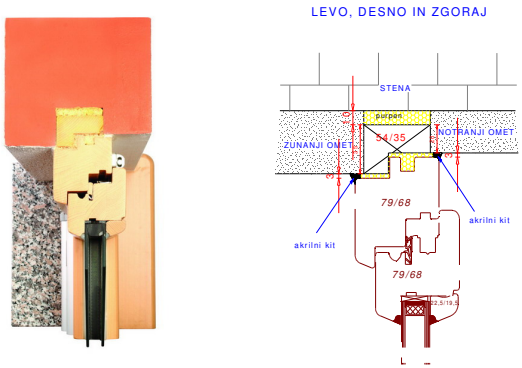
5. INSTALATTION PRODUCT

5.1. Windows, balcony boors, panoramic, slide and folding

5.1.1. Installation on blind frame

Installation on blind frame have many benefits. There is some the most important:

1. date of manufacture blind charges is short which allows smooth implementation building work (plesters, built in shelves). In this case we can avoid different mechanics damage window and cleaning window after masonry works.
2. Object before the installation well dry. After the installation window because don't come to damage, which are result to much invsests.
3. Blind frame allows extra insulation window reveals on outside. This allows savings in spending and consequently reduces load environment.
4. It is possible to built-in window with blind frame without final laths.
5. installation with blind frame we especially recommend in case, if the customer decide for window from larch wood.



Picture 26: Installation on blind frame

Installation procedure window on blind frame:

1.

2.

3.

4.

5.

6.

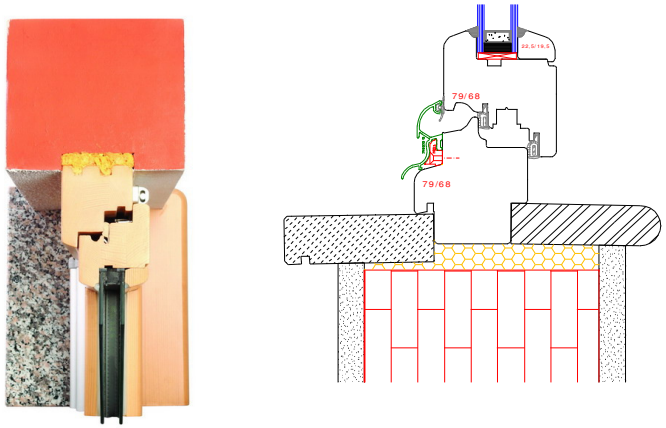
1. Blind frame be installed in first phase building (before plaster,..)
2. Side of window and frame we coat with foam seal and window insert in frame.
3. Window must be horizontal and vertical perfectly settled.
4. Window must fit extra with screw.
5. Contact between the frame window and between the wall hide.
6. the installed frame we relayed wing window.

5.1.2. Installation with inside strip

Picture 27: installation with inside strip

5.1.3. Wet installation

Procedure wet installation is shown in the description procedure installation in case reconstruction.



Picture 28: Installed window with procedure wet installation

5.1.4. Installation procedure in case reconstruction

Depending on current window, we can choose:

- Remove old window in whole,
- Preserve old window frame or dry renovation. Old window wing remove, old window frame pre-laminated with new woods mask. In this not to damage walls and window reveals.

Remove old window in whole:

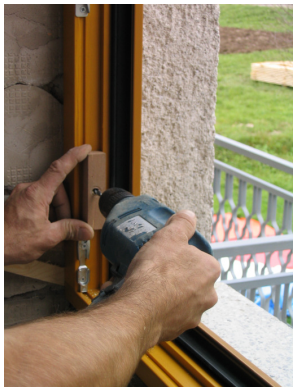
1. Recording old wing

2. Remove old frame

3. sawing frame

4. Remove roll and roll box

5. Insert and settlement new frame



6. Extra screw frame

7. Insulation roll box

8. Insulation and fixed window wing

9. Rehabilitation with gypsum plates

10. Look in outside wall

11. Relaying window wing

12. Fixed window wing

13. Control operation basic functions

14. Control operation basic functions

Window wing are remove from frame. Removal are work with electric saw, with saw are old frame often sawing and then with iron lever for removal remove. Hole are cleaned, waste material we remove from the object. In the removal old elemnt are possible damage ceramics or façade coat, if only this fixed to removal elemnt. In this case not responsible for damage.

Window frame coat with ekspandirajoč purp gasketing foam and we are extra screwed. In case installation inside built-in roll are fixed in frame and insert in hole.
With agreement followed installation inside shade.

5.1.5. RAL installation

In beginning 90. years previous century are German specialitists developed special way installation, which we call installation the guidelines RAL. This new way we are accept before years and we started implement in Slovenia. Installation RAL is exactly defined, provides best gasketing window and prevent formation heat breadges. Heat loss are smaller, mainly not phenomenon condensation and mold, which in extra cases transmitted on construction and on wall. The same installation RAL will not enough effective, if other part house are not enough thermally insulated and

they are souce excenssive heat loss. Because is recommended that it choose in all energy saving new building, which they match current regulations of thermal insulation building. installation RAL installation is because more expencive material and demanding and longer process two- to three times more expensive from klasic installation.

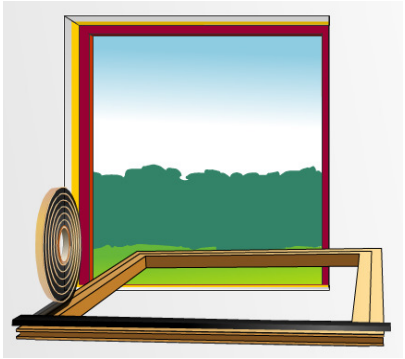
Basic principle RAL installation is better gasketing contact on inside as at outside. This allows breathing house. In inside is used as seal for air and water pair tight gasketing foil or pre- compresed gasketing tapes. So it is possible transition water pair from rooms to outside, but not from outside to inside. Gasketing is the triple, one layer on outside, other on inside, thir is the thermal insulation on center.

Depending on the choice individual material, which must be with each other compatible, then can window the guidelines installated on three basic ways. In first standard we can as outside barrier used different pre- compressed tapes, foil and special skirts, for inside we used different foil and special gasketing mase. Other way is intelligent system, which is the same standard, but it is advance, which reduces installation time. On inside and outside frame we stick the same foil, which works duplex and does not remove condensation water pair just outside, but they work at changes temperature also in inside. They adjust to the current situation. As thermal insulation we used polyurethane foam. Third, which is the latest way is use special pre- compresed tapes, which are installed accros the width window frame and in contact because special impregnation ensure all three layer. Additional thermal installationnot necessary, very important is screw and anchoring frame.

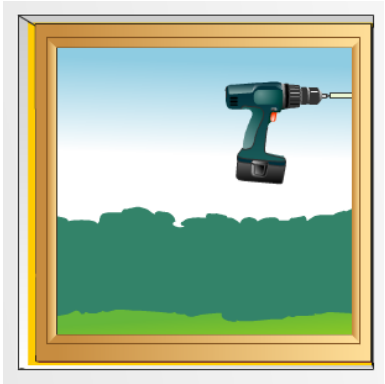
The same procedure installation is more complex from clasic way. First must be well prepared window openings. Reveals must be straight, even better is if you have already prepared and have smooth surface. The latter must be clean, dry, without dust and fat. In next step to the outside and inside window frame stick gasketing foil (Picture 31/1). With him we provide steam permeable and water reflecting layeron on outside. If we decided for use pre- commpresed gasketing tape, then we stick frame with this tape. His feature is, that the tape after the installation expands and also effective fill the all area. Then followed installated frame in opening and his screw (Picture 31/2). If we don't used pre- commpresed tape, then inject polyurethane in opening about frame (Picture 31/3). Polyurethane

foam or pre- commpresed gasketing tape they represent center thermal and sound insulation. In case, that we used inside gasketing foil, than in next phase with special roller or brush with stick we coated inside and outside reveals, on which we stick part of foil (part are stick on frame). Very important is design corners. If the foil on this place suspended or if the place insufficient filled with gasketing foam, then would be thwarded this installation and her effect. If the such sites not enough gasketing, then arise thermal bridges and with this unnecessary thermal losses. For the gasketing slot with inside we use closed-cell round profil from PE- mass (Picture 31/4). Outside and inside contact window with construction we further gasketing with gasketing mass (Picture 31/5). Inside foil or PE – profil with gasketing mass present inside part insulation.

When are window built-in then we can installation outside and inside window shelf (Picture 32/6). The best way is if this worked masters, which are installation wondow, because it is very important, that the shelves installated so, that not wet. Inside shelves is primarly in new-building installated much latter or before moving. Every experienced master will take care of it that the projecting roof shelf enough big, corners and shelves conclusion on contact with facade or inside plaster will be made in sufficient detail.



1.



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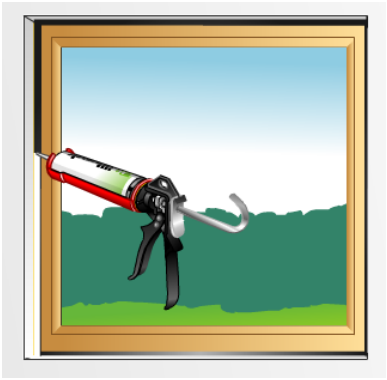

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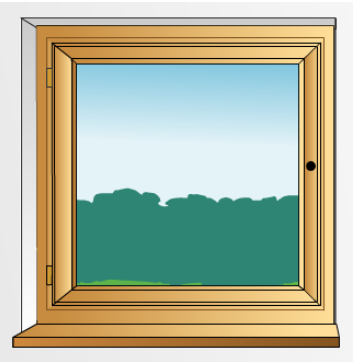
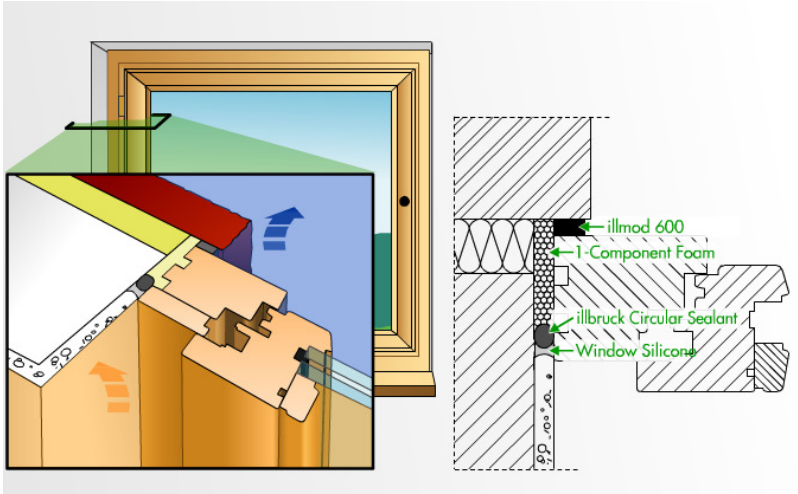


6.

Picture 29: The case procedure installing window after guidelines RAL - installation



Picture 30: Final look detail installated window after guidelines RAL - installation

RAL-installation building furniture is suitable for all types new-building, no matter for this in which construction material are built, also for prefabricated houses and when changing window in old houses. Its quality does not depend on material from which are made window frame. It is important only, the masters strictly adhere to instructions and legality and to carry out the construction of very precise.

6. HINGES SETTINGS

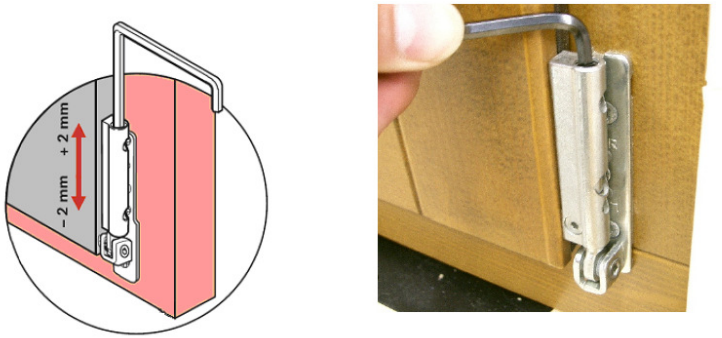
We are advised that installation and settings hinges all our product let the specialist. In case that the installing elements and setting hinges themselves, you are follow these instruction. In oppsotite case damage on product, which resulting from this address are not subject reclamation.

6.1. Windows and balcony doors

Windows and balcony doors we must set in optimal location already at same installation. With this we provide optimal action window. Smaller settings are possible later by tightening the screw on hinges. For the settings hinges is mostly used inbus key, two dimension (2,5 and 4).

Picture 31: Inbus key

Wing window can regulated at height screw on the lower rate (Picture 32). With hinges we romove protection part and with inbus key number 4 we regulated descent window. If the screw rotate clockwise then the wing window rises, in otherwise case are lowered.

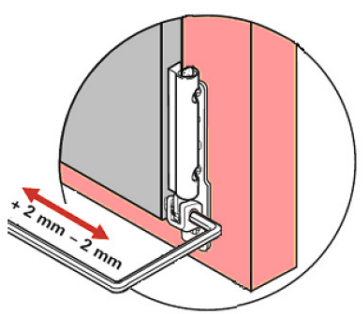


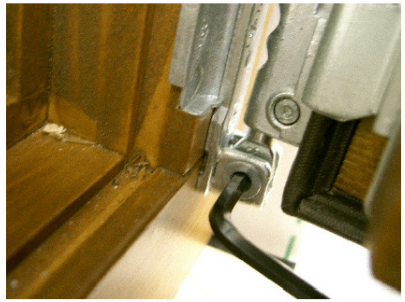
Picture 32: Settings window after heigh

On lower rate we can setting the pressure at the wing frame. If we want to wing more fit the frame then we must have screw marker (Picture 33) turn to direction clockwise.

Picture 33: Press wing to frame

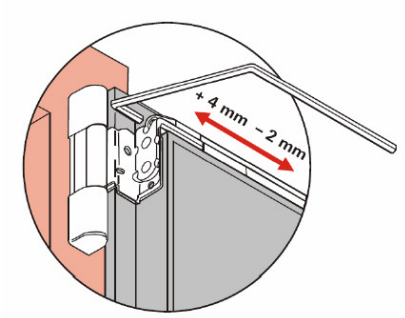
Move wing in the lower part left and right we can regulated with inbus key (number 2,5) on marked screw. In direction clockwise, we rotated screw in case if we wanted window move closer to frame, in otherwise case we rotated key in opposite direction clockwise.





Picture 34: Horizontal move window

Move the upper part wing horizontal we regulated with screw on the top rate. Rotation of the screw in direction clockwise move wing in direction hinges.

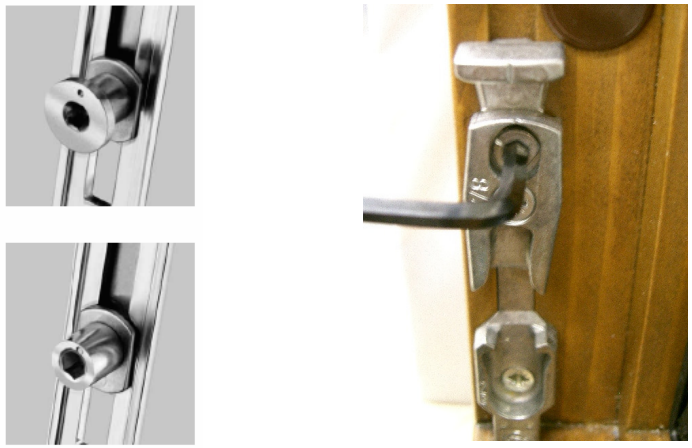


Picture 35: Horizontal move window

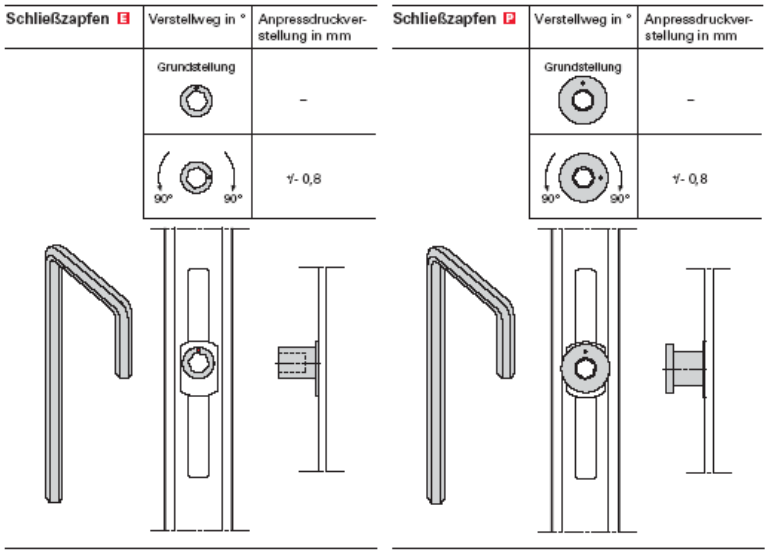
At the upper rate we can set the pressure wing at frame. If we want the wing more fit the frame, we must screw rotated in direction clockwise.

Picture 36: Sealing the upper window

Gasketing window throught the (on area of the hook) regulate with changing the possiton button which is shown on lower picture. The same is regulated gasketing wing on two-wing window.



Picture 37: Regulated sealing window



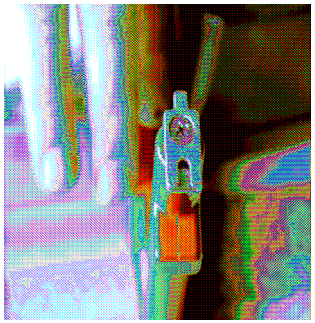
Picture 38: Regulated fit wing on frame or to two-wing window

Shooting and inserting wing on frame

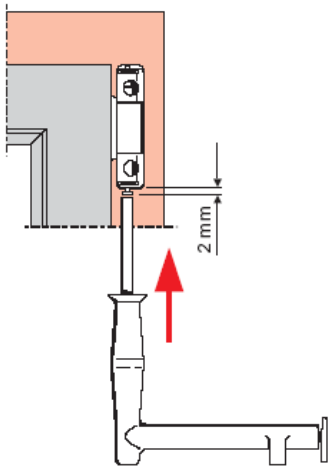
Sometimes is in installation window or later house renovation necessary wing window remove from frame. If you have that purpose we you please, that this follow the lower instructions and warnings.

⚠	Wing windows and balcony doors can weigh to 130kg!

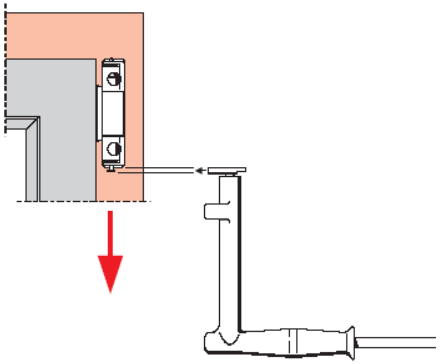
- Wing window is in detained position
- Clip (marked on lower picture) pull straight down and withdrawn
- Open window for 90℃ and pull the upper part of the course
- On lower part is window only mounted so that the wing in this phase just getting up from the pin



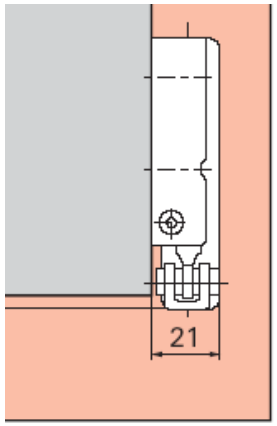
Picture 39: key for the shooting window wings



Picture 40: Rate picture



Picture 41: Extracting rate



Picture 42: Shooting wing

Insertion wing on frame place in reverse order reight.

	We must be careful that in insert rate in correct possiton, as shown the picture below. In otherwise case we wing window can be removed.

Picture 43: Picture correct location rate after repeated insert on frame

7. Cleaning and maintenance products

Regulary cleaning and maintenance all window and doors is condition for provision perfect look and use product. Outside surface windows and doors are not exposed just different weather impact but also dust in air, industrial gas and smoke. In combination with rain, dew they can arise ulcers on window surface, which are strongly degrades look window. To avoid this is necessary cleaning, mainly outside surfaces.

If we use cleaning and protective resources which are not recommended by the site manufacturer, than we must be careful that do not contain abrasive leach and organic solvents. Otherwise, the resulting damage to the surface, which are not subject of reclamation. Recommended is that all cleaning and protective means before we use test on hidden part surface.

7.1. Wood surfaces

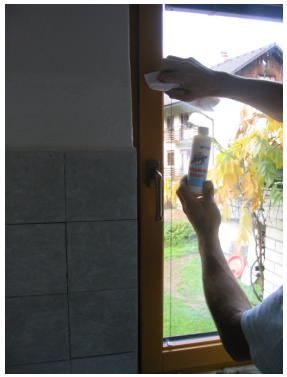
For care, cealning and protect wood surfaces we use set cleaning and caring resources, which are user can order it from us. In biger set are located cleaner for wood, caring balsam, oil for spreading hinges and correction lakes. Smaller set consists cleaning for wood and caring balsam.

Picture 44: Celaning set

We are use cleaner for cleaning wood surface windows and doors. Diluted with water apply to surface, remove stains and dust and we surface wash with clean water. We surface wipe with dry cloath and on her apply protection care balsam.

Picture 45: Use cleaning means

We apply care balsam on dry surface with clean, soft cloth, in direction fiber. We must leave work 5 minutes, than wipe surface with damp cloth. Balsam drain deep on structur wood and they provides water reflective effect. For permanent preservation such a surface it is redommended 3-4 times a years wood protect with care balsam.



Picture 46:Use care balsam

In case damage wood surface is necessary with damaged place move all application and in fully repeated procedure protection wood (application grundov, color,…).

7.2. Aluminium surfaces

Aluminium products can because outside impact stay without shine or is reduced color stability their surface. Necessary is at least one a year cleaning frames and wing, in case big pollution air also several times a year cleaning. We are cleaning surface with cold water with mild cleaning means. We are use clean, soft cloth or sponge. Use of home cleaning, which include aggressive substances, such as alcohol or ammonium chloride, not allowed.

7.2.2 BASIC CLEANING

Particulary during long-term storage and installation colletct on the surface a lot of dirt. In such cases it is necessary after completing the installation and construction works carry out basic cleaning anodised surfaces. After cleaning is recommended immediate protection.

7.2.2 PERIODIC CLEANING AND MAINTENANCE

a) Inside:

In normal conditions is nescessary anodised surface, which are located inside, we just must wipes with soft cloth. Surfaces, which have not been very long cleaned, first must wash with water, then we cleaned with mild cleaning agent and soft cloth. If you are that surface polished with soft cloth then the surface shine.

b) Outside:

Period of cleaning outside parts of anodised aluminium depends on the aggressiveness of the atmosphere.
Anodised aluminium surfaces which are located outside and have a decorative addition to the importrance of protection like: canopies, gates, shutters, should be cleaned once a week. In this case with regular celaning is best to use clean water and a leather cloth and finally wipe the surface with a soft dry cloth.
Window frames, shelves, masks and other elements as necessary to clean the facade regards on aggressive atmosphere. It is best cleaned with neutral synthetic detergents and use soft cloth, sponge, leather cloth or soft brush. Finally wash with clean water and then just wipe the surface.

More presisten dirt can be removed with abrasive cleaners or with fine polishing agents.

If you are building components after cleaning to protect, make sure to become a feature realy thin and hydrophobic. The film may not be faded or yellowed not even attract dust. Waxes, vaseline, lanolin and similar materials are not eligible. These properties should not have even combined cleaning.

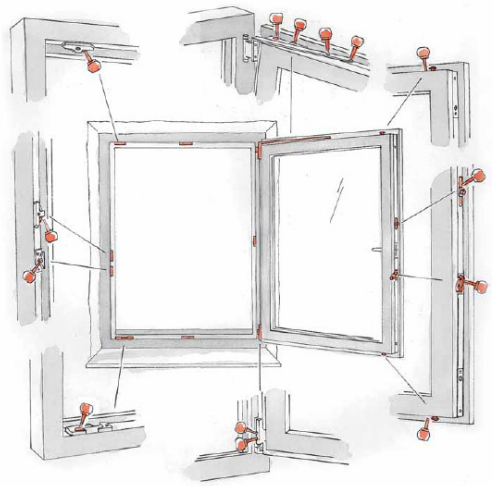
Certainly not suitable means, wich contain soda, satins or acids. To clean should not be used devices which leaving scratches.

7.3. Glass surface

We are cleaning glass surface with normal cleaning for glass, which are not including alkaline, leach and acidic fluoride materials. For cleaning we use clean, soft cloth. More persisten stains (color, glue) we remove with acetone or cleaning gass. Use of metal objects (blades, robust sponge,…) not allowed. Glass surface we must between installation window or later between renovation protect.

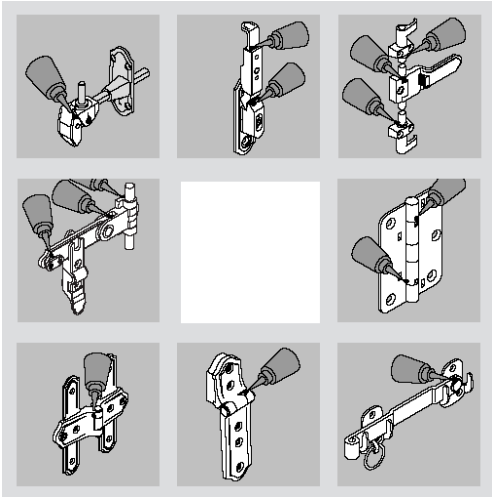
7.4. Hinges

In hinges we regulary cheek his coretct pissiton, fitting and wear. Loose parts we again screw, fitting parts we replace. Once a year is necessary all inflected parts hinges grease with oil, which are located in cleaning-care set. We must be careful that hinges between cleaning other part window does not in contact with corrosive cleaners.



Picture 47: Points once a year greasing hinges with Aidol oil

Picture 48: Use oil



Picture 49: Greasing hinges at shutters

7.5. Sealants

Once a year is necessary review all gaskets, we must gaskets greased with smoothing means. With this we increase gaskets and prevent fragility gaskets.

8. Drizzle window and ventilation rooms

8.1. Drizzle windows

Especially during the winter months is occurrence condensation on outside and inside glass all often. Cause drizzling is in laws of physics that warm air take more moisture as cold air. At the cooling air (difference between inside and outside temperature window) becomes air saturated with moisture and water are by drizzling excreted.

To condensation on inside glass usually comes in rooms with high moisture (kitchen, bathroom, laundry). We can seen that the condensation first appears on window edges. Reason for this is lower temperature on glass edges, from temperature in center glass area. We can partially avoid with good insulation glass, with low Ug factor and with relevant ventilantion rooms. So with this we can prevent fungi and development health harmful mold. In times of extreme cold, large moisture and badly heated room then can good insulation window drizzling.

Outside surface window are drizzling because energic saving glazing prevent heat transfer to outside. Inside temperature also has no affect on outside glass, because this cools more. Temperature on outside also in temperature condensation and window is drizzling. Edges of the winows usually stay non-drizzling because of wors insulation and with this higher heat conduction.

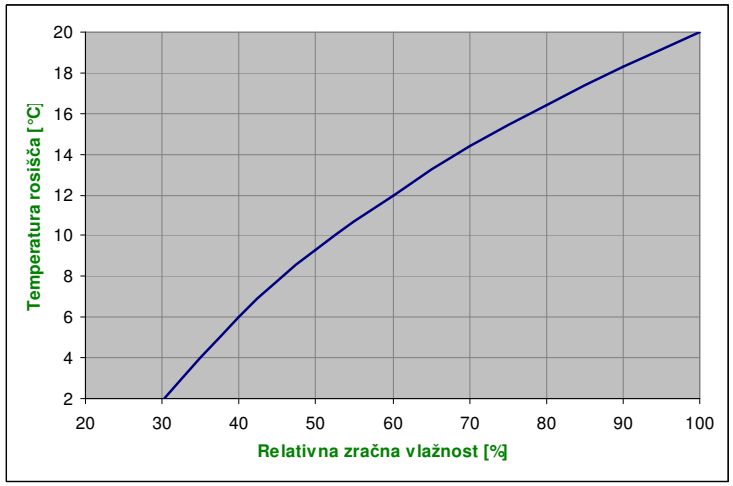
In the past they are this problems residents less trouble, because it was apartments better ventilated, mainly because worse sealed windows. Because it was in air many moisture, it is in glasses

cumulating condensate. At the frost it was condensate change in ice flowers and quantity moisture they are permanent reduced.

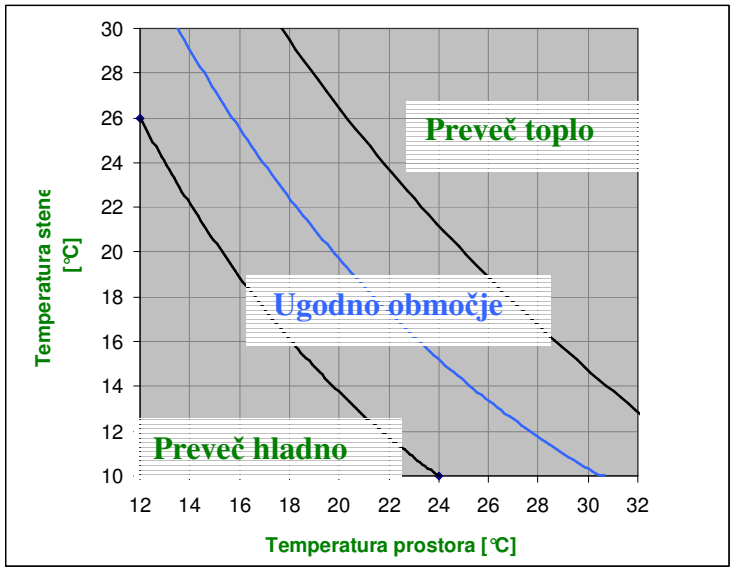
8.2. Ventilation rooms

Four adults person when they are breathing released to 6 liter water on day. If the level adding in avoproation water in cooking, bathing and moisture ornamental plants, akvarium than in the entire household in one day produces 12-15 litr water. Because of healt reasons should be optimal relative air invest between 40-60% and temperature in living room 18-22°C.

Main tain ventilation is provide sufficient quantity fresh air in room. It is sufficiend if ventilated on two to three hours from 5 to 10 minutes. We are recommend ventilation with completely open windows or with ventilation on drafts, ventilation with detainees windows valid for energy wasteful. Outside wall and furniture in this strongly cooled and it is necessary more energy for re-warming living room.



Picture 50: Temperature drizzling in dependence from relative humidity



Picture 51: Graph of beneficial temperature are

Case:
Feeling people in room where is temperature wall 18°C and temperature room 20°C is better as in room where have wall 15°C and romm have 24°C.

9. Warranty card

We offer:
5 years warranty for installed glasses,
3 years warranty for windows M SORA UDOBJE and
2 years warranty for windows M SORA NATURA,
PRESTIŽ, VIZIJA, POLAR and for other products.

Warranty card guarantees you quality products further from the date of account. We commit, we will during the warranty period on own costs remove all dificiencies and failure and provide necessary spare part. On writing reclamation customer we will answer in time 15 days and in case eligibility we must mistake eliminate.

Warranty is valid just in submission accont, warranty and in fully completed service journal, which is integral part user manual. Instructions receives customer at the takeover products and they are available on website M SORA. On a service journal is necessary record performed checks, care and maintenance work. Reclamation is exercised only in case regular and timely maintenance products after the instructions manufacturer. Exercise are with writing login in which is stated description mistake and information on user and object on which the reclamation claim (address object, phone number). On visible mistakes is customer required writing noted manufacturer in 8 days. All customer requests for an error, which were caused with a third person, without written conset of the manufacturer, then they are excluded from warranty.

Validity of the warranty!

10
years warranty

- For installated glass
- Surface treatment for alu on alu wood windows
- Provide reserve/replacement part
- On weather stability against unnatural changes color and crack formation on anodised surfaces and with dusty painting coated profiles window and doors from aluminium
- Against condensation between insulating glasses with TGI spacer
- On functionality related materials (wood, thermal insulation foam, aliminum) during the performance NATURA, UDOBJE at regard M SORA instruction for installation and maintenance
- On functionality sticking and gasketing insulating glasses with window prifle during the performance NATURA, UDOBJE at regard M SORA instruction for installation and maintenance

5
years warranty

- Against corrosion at handles house door in case that no mechanical damage
- On weather stability against unnatural changes color and crack formation on door fill surfaces

- **Against condensation between insulating glasees with ALU spacer (inter-glass blinds)**
- **Against condensation between insulating glasses with ALU spacer**

List of colors M SORA standard 2011/2012

Color tone	Type of wood	Years warranty
SORA02-08	Spruce/fir	5
SORA03-08	Spruce/fir	5
SORA05-08	Spruce/fir	5
SORA07-08	Spruce/fir	5
SORA08-08	Spruce/fir	5
SORA09-08	Spruce/fir	5
SORA 12-08	Larch	5
SORA 13-08	Larch	5
SORA40-08	Spruce/fir	5
SORA41-08	Spruce/fir	5

List of colors M SORA wood-aluminium 2011/2012

Color tone	Type of wood	Years warranty
Smr 01-08	Spruce/fir	5
Mac 11-08	Larch	5
Red 01-08	Red grandis	5
Hrs 01-08	Oak	5
Tsmr 01-08	Thermo spruce	5
Tjes 01-08	Thermo ash	5
Smr 2/418	Spruce/fir	5

Mac 2/418	Larch	5
Red 2/418	Red grandis	5
Hrs 2/418	Oak	5
SORA50-09	Spruce/fir	5

3

years warranty

- **For good working function windows, doors from family M SORA NATURA and COMFORT**
- **Against color change and outside cracking on doors fill, wood shutters and profile on windows, doors.**
- **Against door rust and window hinges, which is in room**
- **Against color change, outside cracking on aluminium shelf winodw**
- **Against color change, outside cracking and water proofing on shelfs coated with artificial mass and made of artificial stone**
- **Against color change and outside cracking on components of part aluminium and pvc roller shutters and insects screens**
- **On weather stability against unnatural changes color and crack formation on surfaces roller shutters and blinds from aluminium**
- **On window hinges and door at regard M SORA instruction for installation and maintenance**

List of colors M SORA – system for Italy 2011/2012

Color tone	Type of wood	Years warranty

Smr 26552	Spruce/fir	3
Smr 26556	Spruce/fir	3
Smr 26557	Spruce/fir	3
Smr 26559	Spruce/fir	3
Smr 26555	Spruce/fir	3
Smr 27810	Spruce/fir	3
Mac 26552	Larch	3
Mac 26556	Larch	3
Mac 26557	Larch	3
Mac 26559	Larch	3
Mac 26555	Larch	3
Mac 27810	Larch	3
Hrs 26552	Oak	3
Hrs 26556	Oak	3
Hrs 26557	Oak	3
Hrs 26559	Oak	3
Hrs 26555	Oak	3
Hrs 27810	Oak	3
Red 26552	Red grandis	3
Red 26556	Red grandis	3
Red 26557	Red grandis	3
Red 26559	Red grandis	3
Red 26555	Red grandis	3
Red 27810	Red grandis	3
Smr 20181	Spruce/fir	3
Mac 20181	Larch	3

1

years warranty

- **Against color change, outside cracking and rust near other hooks and part hinges, which are in free**
- **For good working function shutters, blinds, electrical devices and their parts**
- **For other things, which not listed in other points**

15

Years ensure

M SORA provides you also 30-years service and with this perfectly functioning our product. This apply at assumption that it construction (frame + wing) undamaged. 30-years period begins run with date production. Services which are necessary for perfectly functioning, material, working hour then calculated then valid price list.

Cases where the warranty does not apply!

- If the bayer requires window and doors in dimensions, which are not recommended manufacturer or hinges manufacturer
- If the bayer requires surface treatment windows with no-color or very light coatings, which are not resistant to UV light
- For window which are processed with very dark stain or covered coatings, which cause excessive heating of wood, wood cracking, then warranty applies just in regular maintenance during the warranty period
- For color non-compliance between model plate from color maps and individual part of window and doors, which is result

different batches of coatings, natural structure of wood and different absorptive coatings in stain treatment

- For esthetic deficiencies, whic are in cotextinternal standards
- If the window installated in object with fresh wall and was not provided appropriate ventilation room during the object construction and later use.
- If the front doors installated on southern or western side and they are without canopy
- If the products damaged by hail, fire or burglary
- In case that the damage caused because mechanical and chemical effect on surface, omproper and violent use or overload windows and doors
- If the products exposed functioning sea water or impact of aggressive
- For the coatings and wood part of window and doors, which surface are not finished
- If installation was carried out by the manufacturer
- For damage, which created by inappropriate storage and handling of products
- In case, that windows have been in time storage exposed direct weather (rain, snow, sun) or they are storage in damp areas
- For defects and damage, which are result other deficiencies, these were not timely corrected or writing supplier reported in 15 days from creation
- For changes look surfaces which are result of pollution

Company and office producer: M SORA d.d., Trg svobode 2 , 4226 Žiri

Authorised service: M SORA d.d., Trg svobode 2, 4226 Žiri

SERVISNI LIST

Kupec: **Naslov:** **Datum montaže:**

DATUM	POVRŠINA IZDELKOV		OKOVJE		POSEBNOSTI	PODPIS
	nega	vzdrževalno pleskanje	oljenje	nastavitev, zamenjava delov		

V rubriko POSEBNOSTI vpišite morebitna posebna dela (npr. zamenjava stekla, tesnil, silikona).